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ABSTRACT

A study was undertaken to determine (1) whether community college freshmen who perceive certain structural considerations in their reading can generate essays that show application of those considerations, and (2) whether there are significant differences in the writing achievement of "more able" and "less able" students. The experimental group for the study was composed of 61 students in three classes; the control group contained 45 students in two classes. Materials for the control classes consisted of a series of writing modules prepared by the instructor. Topical readings were also assigned as motivation for student writing. Materials for the experimental classes consisted of a language text and a literary anthology. Writing assignments for this group occurred in conjunction with or in response to assigned readings from the texts. Students in both groups were pretested and posttested using standardized tests. Prestudy and poststudy writing samples were also collected. The results showed that students receiving instruction in the application of reading strategies to writing did not improve their writing skills to a significantly greater degree than did students in the control group. Another result was that "more able" students showed greater improvement in writing skills than did "less able" students. (FL)

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A Study of the Effect of a Literary Models Approach to Composition on Writing and Reading Achievement

Marden L. Perry

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Of the four facets of the language arts--reading, writing, speaking, listening--reading has, of necessity, occupied a position of central importance in the elementary curriculum. In the 1950s, methods of reading instruction came under attack with the publication of Flesch's Why Johnny Can't Read. In the 1970s, the focus began to shift, from concerns about reading performance to concerns about writing performance. With reports of declining SAT scores, reports from the National Assessment of Educational Progress of declining writing performance among students, and with media articles such as Sheils' "Why Johnny Can't Write" (Newsweek, December 8, 1975), the public's attention quickly shifted to the writing facet of the language arts.

Related Research in Writing and Reading

Researchers for several years have pointed up complementary aspects of instruction in writing and reading. Such researchers have noted that facility in reading does bear on facility in writing. Graves (1977) has observed:

> ...writing is the making of reading. When a child writes, he has to know the sound-symbol relations inherent in reading. Auditory, visual, and kinesthetic systems are all at work when the child writes, and all contribute to greater skill in reading. (p. 8)

Smith (1975) agrees.

> Reading and writing may be relatively different in their component skills, but the manner in which these skills must be developed is remarkably similar. (p. 193)

The current clamor over a decline in writing performance should come as a surprise to no one. At a recent conference of English teachers (April 1979), in a discussion of the decline or lack of decline in writing performance, Smith noted that even if it were true that Johnny couldn't read in the 1950s, it would have undoubtedly been true that he couldn't write either.

Today's concern with regard to writing/reading performance, however, has stimulated renewed interest in the potential relationships that may exist between reading and writing. Researchers have already observed a number of ways in which the writing and reading skills of students complement each other. Four aspects of these relationships will be addressed here. The first concerns studies that report correlations between language development and writing and reading. A second aspect concerns the effect of writing activity, particularly activity involving language manipulation, on improved reading comprehension. A third aspect concerns the role of structure in both writing and reading. Finally, a fourth aspect concerns the writer's awareness of audience, an awareness by the writer that he is a writer producing reading.

Carroll (Applebee, 1977) has noted in an exhaustive study that, in a statistical sense, writing and reading facility are inseparable from general verbal ability. "Measures of these skills are highly interrelated and emerge on the same dimension in factor-analytic studies" (p. 534). Loban (1976) in his work has observed strong correlations between speaking, listening,

writing and reading. In his twelve-year longitudinal study of language development, Loban noted that the children with good language skills in grade 1 are those who excel in writing and reading in grade 6. Adler (1976) states, "Writing is inextricably tied to reading: good readers are very often good writers and vice versa." (p. 2) Evanechko, et. al., (1975) observed strong correlations between reading and language measures.

> ... the evidence suggests that both reading and writing use certain language skills in common and that the presence of these skills should result in better performance in both reading and writing. (p. 323)

Other researchers have called attention to the improvement in reading comprehension afforded by writing activities. Lazadowski has devised a formula to predict students' reading level from "features of students' writing, including mean sentence length, syllables per thought unit, and polysyllabic words per sentence." (Applebee, 1977, p. 535) Takahashi found that stories utilizing students' written and oral language patterns were more easily comprehended by students in their reading. (Applebee, 1977)

The role of language manipulation in such activities as those of sentence-combining, sentence-expansion, etc., have been shown to improve reading comprehension. Hughes demonstrated gains in writing fluency as well as improved reading performance from structured writing practice. (Applebee, 1977) The work of O'Hare and Coombs with sentence-combining has demonstrated a beneficial effect on writing quality as well as on reading comprehension. (O'Hare, 1973; Coombs, 1975; Stotsky, 1975)

Still other researchers have observed relationships with regard to writing activity and reading comprehension. Meaning comprehended in writing and reading, Britton (1975) observes, is the product of "shared contexts." Reading is not simply getting meaning from the printed text. The meaning on the page derives, of course, from words and sentences, but also from the interaction between the writer's and the reader's experiential backgrounds. (Shaughnessy, 1977; Sternglass, 1977) As the writer writes, he must attend to what a reader may perceive in his writing, and a reader must be aware of what he is inferring from a piece of writing. Page (1974) notes that when the reader decodes the written or printed sentence, his language knowledge "predicts and guides the selection of which images he will perceive.... What differs [between the writer's text and the reader's rendering of it] is that the content is drawn from the reader's encounter with the author's graphic surface structures." (p. 179)

Kroll calls attention to an obvious, though often overlooked relationship between writing and reading skills, that of structural relationships. In reading, Kroll notes, students are asked to perceive, as an aid to comprehension, the very same structures they must utilize to organize their writing: main ideas, details, transitions. (Applebee, 1977)

Niles (1965) has observed, "Every good piece of writing has structure" and a pattern of development whether that pattern be a time order, a cause and effect pattern, or a comparison and contrast pattern. Structure in writing, says Graves (1977), gives meaning to detail and provides a context for that detail.

Structure in reading material aids the reader in his search for main ideas and the support for those ideas. (Herber, 1978) It becomes obvious that if a reader is unable to perceive structure in his reading, he will be unable to organize his ideas in his writing so that they may be understood by another reader. (Coomber, 1975) Students' use of structure, in D'Angelo's view, is developmental. As students mature, they become more aware of what does and does not belong in a given structure. (Jones, 1979) Approaches to instruction may be forthcoming that will help students utilize this capacity in both reading and writing.

The last aspect of the writing/reading relationship to be addressed here relates to the writer's awareness of himself as a writer producing reading. (Shaughnessy, 1977) Goodman (1970) notes,

> The way to learn to "read" in the sense of understanding the presentations of others, is to prepare one's own presentations so that they can be more easily "read" by others. (p. 204)

One of the initial steps a writer must take in communicating his ideas and experiences is to decontextualize his experience. He must come to an awareness that his reader will not have had the same experiences he has had and that his reader will bring his own experiences to the printed or written text. He must build into his written text a good deal of redundancy if he is to communicate clearly. (Moffett, 1968; Smith, 1975)

In oral contexts, a speaker is able to modify a presentation by noting the responses of his listeners. The writer must make up for this loss of feedback by putting himself in the place of his reader, by anticipating his reader's response. (Lester, 1973)

Another aspect of the writer's awareness of audience relates to revision. In revising and proofreading his work, the writer must become a reader of his work. (Britton, 1978) In revision, the writer/reader role becomes an alternating one, first writing, then reading. Unless a writer can assume a reader's role, proofreading of his own work becomes nearly impossible.

A number of researchers have noted the role of prediction in reading. (Goodman, 1970; Smith, 1975) The writer, too, must attend to prediction. The most coherent writing is that which is most easily predictable. (Lester, 1973) In the typical writing situation, prediction is often short-circuited because the writer already knows the message and thus does not attend to his message in the same way that his reader will. (Kelling, 1976) To communicate clearly, a writer must remain aware of his unseen audience.

Research suggests at least four factors common to both writing and reading which, if treated jointly in instruction, should improve achievement in both curricular areas. First, a union of writing and reading activities would help students to perceive clearly the role of structure in both writing and reading. Such a union would make explicit and functional for students a number of organizational patterns which they use in each of the subject-matter areas. Not only are these patterns met every day in content classes, they are patterns students can learn to apply in the development of their ideas in composition.

Second, a union of writing and reading would teach students to attend to the development and sequencing of ideas. Attention to main ideas, supporting details, and to effective ordering of such

details would serve students in content areas as an aid to accurate recall of facts. Attention by students to these same factors in their composing activities would aid them in achieving unity, coherence, and emphasis in their writing.

Third, a union of writing and reading skills would help students develop critical reading skills that would help them to assume a reader's role in reviewing their own compositions, thereby improving revising and proofreading skills, ensuring both accuracy of the written text and clearness of expression.

Finally, in the union of writing and reading activities, a direct reinforcing mechanism would operate. As students search for material to support their ideas in composition, they would be motivated to read more widely. As they read more widely, students' writing, through exposure to more sophisticated ideas and syntactical patterns, would improve, both in maturity of thought and in maturity of expression.

A Study of Writing/Reading Relationships

A study to explore writing/reading relationships, particularly those related to organization, method of development, purpose, and audience, was undertaken at a metropolitan community college in a northeastern city. The purpose of this study was to determine (1) whether community college freshmen who perceive certain structural considerations in their reading can generate essays that show application of these structural considerations in their writing, and (2) whether there are significant differences in the writing achievement of a group of community college freshmen identi-

fied as "more able" and those identified as "less able" readers.

Description of Subjects, Materials, and Procedures

The population for this study was comprised of 106 students in five classes in Communications II (second semester) The experimental group for the study included 61 students in 3 classes. The control group included 45 students in 2 classes. Though students in both experimental and control classes were primarily from a metropolitan area, the majority of students were drawn from a community of blue collar families. The community is one that has experienced some racial tension. Some of the students were recent high school graduates yet many of the students were more socially mature than the typical freshman. Essays written by the students in their classes indicated that many of the students had already had experiences with marriage and parenthood; some, at the time of the study, were even heads of single-parent families.

Classes for both the experimental and control classes met three times per week for a period of fifty minutes per class. Initial testing for the study occurred in the second week of the second semester for the experimental group, and in the week following for the control group. Final testing for both groups occurred at the end of the second semester.

Instructional materials for the experimental classes consisted of a language text (Language Awareness, Paul A. Escholz, et. al.) and a literary anthology (The Little Brown Reader, Marcia Stubbs and Sylvan Barnett). Writing assignments in the experimental classes occurred in conjunction with or in response to assigned readings

in the anthology or in conjunction with lessons prepared by the investigator.

Instruction in the control classes was carried out almost completely on a one-to-one basis. Materials used for instruction in the classes consisted of a series of writing modules prepared by the instructor. In addition, topical readings were assigned as motivation for student writing.

The writing modules consisted of the following steps:

1. Assignment
2. Objectives
3. Due date
4. Introduction to or comment on the assignment
5. Writing the essay, step-by-step
6. A format for the final draft
7. Student models in the target form

The writing modules included assignments for pieces of writing on personal subjects, argumentative essays, critical analysis essays, and a research paper. Students completed eight different composition assignments, including revisions, during the course of the semester.

Revision as a step in the writing process occurred just prior to completion of the final draft of the essay. Early in the assignment, students completed a rough draft which was checked by the instructor and returned to the student for revision. The student then revised and resubmitted the final draft. After the essay had been read, graded, and returned to the student, the student had the option of revising again for a higher grade. However,

students did not often revise a second time.

The instructors for both the experimental and control classes had been teaching at the community college where the study was conducted for a period of four years. Both instructors had earned Master's degrees and had come to the community college in the same month and year directly from graduate school.

To provide materials utilizing a reading/writing approach to instruction, the investigator developed a series of four experimental lessons. Each lesson included a reading component and a writing component. Each lesson required two weeks of student instruction and student response. Eight weeks were required to complete the experimental program. In the experimental lessons students focused on a series of reading strategies as they read specified prose selections and attended to the organizational structure, the method of development, the writer's purpose, and the audience to which the selections were addressed. Students then applied these reading strategies to the development and production of original compositions, deciding on a purpose and an audience for writing, choosing an organizational structure and a method of development appropriate to that purpose.

Each experimental lesson focused on one of four modes of discourse--narration, exposition, description, and persuasion. Each lesson included a model essay in the target mode and four different kinds of exercises for each essay: comprehension exercises, vocabulary exercises, discussion (prewriting) exercises, and a writing assignment. The reading level for each of the model

essays was at or below the ninth-grade level, as determined by the Fry Readability Formula.

Each lesson was presented over a two-week period. During the initial introduction of the target essay, reading skill instruction was the focus of the lesson. Students read each essay from the experimental lesson, explored the content of the essay, and completed vocabulary exercises featuring items presented in context.

During the discussion portion of the reading lesson, the instructor called attention to the particular characteristics of the target mode of discourse as exemplified in the essay. Students noted the structure of the essay, the method of development in the essay as a whole as well as development within individual paragraphs, and sequencing and transition within and between paragraphs.

Instruction for the composition portion of the experimental lessons followed a prewriting-writing-revision plan. The content questions from the reading portion of the experimental lesson served to introduce the prewriting segment of the lesson. The instructor used this discussion as a basis for generating composition topics among the students. Students then wrote a first draft in the target mode on the topic of their choice.

Though the instructor of the experimental classes evaluated each of the compositions generated from the assignments, an attempt was made by the investigator to provide for student discussion and evaluation of their own papers as well as those of their peer group.

In this way the peer group was established as an audience in addition to that provided by the instructor.

The first step in establishing a peer audience was that of providing for anonymity of student papers. Each student utilized his college identification number, his social security number, to identify all materials, not only those written for the peer audience, but all tests administered in connection with the study.

In a second step students were provided with a rating sheet that would aid them in focusing their attention on critical rhetorical issues during the reading and analysis of the papers. The rating sheet provided a check-off system to aid students in their evaluation of the papers.

A third step in the instructional sequence sought to motivate students to revise their essays after initial drafts had been completed. The peer evaluation was part of this step, but a second part was provided by the instructor in giving the students an opportunity to improve their grades by revising their papers.

Two kinds of tests were utilized in the study. The College English Placement Test (CEPT) by Oscar M Haugh and James I. Brown published by the Houghton Mifflin Company, was administered to students in both experimental and control groups. The CEPT is comprised of two parts: Part I is an objective test of the student's understanding of the basic structure of the English language and his ability to manipulate the language effectively. Part I requires forty-five minutes to administer. Part II of the test is a writing test comprised of two essay questions. Either twenty-five or thirty-

five minutes is allowed the student depending upon which of the two questions he chooses.

Validity for the CEPT was determined in part from the results of a nationwide survey of 160 universities, four-year colleges, and two-year junior colleges that sought to determine appropriate content and emphases for a placement test for college freshmen in English composition. Textbooks and syllabi for freshmen English also helped determine the very broad content of the test. Three forms of the CEPT, including 155 items per form for a total of 465 items, were prepared and administered to 2,598 freshmen in nine colleges in five different parts of the United States. The average difficulty of CEPT items was determined and a coefficient of correlation for item difficulty was computed. Average difficulty of items was .589 and the coefficient of correlation was +.428. (A positive coefficient of correlation with a discrimination index above +.40 is quite acceptable, Haugh and Brown, 1969.)

Reliabilities for the objective portion of the CEPT were determined by split-half procedures in an administration of the test to a total of 4,127 students in 74 colleges and universities. Correlation between odd-even items, corrected by the Spearman-Brown formula, proved to be +.936. (A positive correlation of .94 is recommended as a measure of the ability of a test to discriminate reliably, Haugh and Brown, 1969.)

The reading section of the Cooperative English Test, Form 1A © 1960 by the Educational Testing Service, published by Addison-Wesley Publishing Company, was administered to the experimental classes in the study. However, due to a misunderstanding, the instructor of the control classes failed to administer the reading

test. This error was not discovered until the semester had ended.

The community college where the study was conducted had administered the Reading Test from the McGraw-Hill Basic Skills System, by Alton Raygor, published by the McGraw-Hill Book Company, Inc., at the beginning of the school year. The results of this test were made available to the investigator, although complete results for all members of the experimental and control classes could not be obtained. Complete data, including pre-study scores from the Reading Test of the McGraw-Hill Basic Skills System and scores from pre- and post-study writing samples, were available for 52 students--26 students from the experimental group and 26 from the control group.

The Reading Test of the McGraw-Hill Basic Skills System, published in 1970, is designed for students in Grades 11-14. Test content has a high face validity. Statistics for the test are based on combined norming populations, including samples in ability levels ranging from high school juniors to sophomores in four-year colleges.

The data obtained from the College English Placement Test and the McGraw-Hill Reading Test were used in two ways. The McGraw-Hill Reading Test scores were used to divide the experimental and control classes into groups of "more able" and "less able" readers. The writing sample scores from the CEPT were used to divide the experimental and control classes into groups of "more able" and "less able" writers.

The pre-study writing samples completed by the students in the study were evaluated by the investigator and two former

teachers of high-school English. One of the teachers was not available for the evaluation of the post-study writing samples, thus the investigator and the remaining teacher completed the evaluation.

The rating scale and method employed in the evaluation of the writing samples was that devised by Diederich (1974). The Diederich scale is an analytic scale in that it is comprised of a list of the characteristics of a piece of writing in a given mode of discourse, with values assigned to each characteristic at a high-mid-low point identified and described.

Prior to the beginning of the rating process, each rater read a description of the Diederich method for rating essays, including descriptions of papers rated at each of the levels, low, middle, and high. Following this, the raters and the investigator each read and evaluated a series of ten student writing samples chosen at random from among the papers completed in the College English Placement Test. The raters and the investigator then compared their ratings and resolved any differences of opinion they had with regard to the characteristics of the Diederich scale, the values assigned to the characteristics, or the manner in which the raters had applied them. Then, the raters continued with the rating of the remaining writing samples.

At the conclusion of the study, the CEPT was again administered and a second writing sample obtained for each student. Since the single available rater who had worked with the investigator on the initial ratings of writing samples was now familiar with the rating scale and the rating process, rating of the final

samples was completed with minimal discussion between the rater and the investigator.

Results of the Study

In order to test whether significant change in writing achievement had occurred between students in the experimental and control groups as a result of the special program presented to the experimental students, an analysis of covariance was computed. The data used in the analysis of covariance were obtained from scores on writing samples from the College English Placement Test. Results of the analysis of covariance are presented in Table 1.

TABLE 1

Analysis of Covariance
of the Change in Writing Achievement
Between Experimental and Control Groups

Source	SS	df	MS	F	P
Experimental vs. Control	11.54	1	11.54	.68	.415 (N.S.*)
Covariate (Pre-test)	247.81	1	247.81	14.49	.001
Error	838.16	49	17.11		
Total	1097.51	51	21.52		

*N.S. - non-significant at $p < .05$ level of significance

A second test of the significance of differences between the experimental and control groups was performed, using the analysis of covariance, to determine the effect of high and low reading performance on the change in scores on pre- and post-study writing samples. Data for the test were obtained from scores on the Reading Test, McGraw-Hill Basic Skills System. The results of the analysis of covariance are presented in Table 2.

TABLE 2

Analysis of Covariance of the Effects of High and Low Reading on the Change in Writing Skills Between Experimental and Control Groups

Source	SS	df	MS	F	p
Experimental vs. Control	10.87	1	10.87	.82	.371*
Hi vs Low Reading	185.18	1	185.18	13.97	.001
Covariate (Pre-test)	164.63	1	164.63	12.42	.001
Interaction	.58	1	.58	.04	.836*
Error	516.81	39	13.25		
Total	878.06	43	20.42		

*Non-significant

Students who were identified as "more able" readers in the study achieved adjusted post-test average scores of 34.87. Students who were identified as "less able" readers achieved adjusted post-test average scores of 32.27.

A Chi-Square test of significance of differences was computed to determine whether sex differences had an effect on the findings. The Chi-Square was computed from data presented in Table 3. The observed value of the Chi-Square statistic was $X^2 = 2.77$ with 1 degree of freedom. The p was N.S.

TABLE 3

Chi-Square Analysis
Between Sex and Group

	Male	Female	
Experimental	16 (13)	10 (13)	26
Control	10 (13)	16 (13)	26
	26	26	52

Additional Findings

Conditions that may account for the findings include pre-existing differences between groups, the regression factor, and sex distribution between experimental and control groups.

Pre-existing differences between groups in academic skills appears to be a factor in the apparent lack of findings between experimental and control groups in the study. Average pre-study scores on a writing sample for the experimental group equaled 29.31 with a standard deviation of 6.27. Average pre-study scores on a writing sample for the control group averaged 34.79 with a standard deviation of 3.06. Results of a t-test computed for independent groups equaled 4.01 with 50 degrees of freedom, and a $p < .001$ (N.S.).

Average post-study scores on a writing sample for the experimental group equaled 33.10 with a standard deviation of 5.21. Average post-study scores on a writing sample for the control group equaled 34.04 with a standard deviation of 4.04. Results of a t-test computed for independent groups equaled .73 with a p of .47 (N.S.).

Due to the factor of regression toward the mean, one could expect experimental scores to increase and control scores to decrease. This, in fact, did occur. When the analysis of covariance took pre-level standings into account, the apparent improvement of the control group as compared to the experimental was not significant.

With regard to sex distribution between experimental and control groups, the statistically equal distribution between male and female in the experimental and control groups implies that

lack of findings could not be due to unequal sex differences.

Discussion

Five conditions would seem to have application in a discussion of findings between the experimental and control groups in this study. These include pre-existing differences in reading ability and English skills between the experimental and control groups; failure of the community college program to meet the needs of freshmen students in both experimental and control groups; failure of students in the experimental group to achieve in the instructional program because of academic weaknesses; and failure to achieve in the instructional program as a result of unique characteristics of community college students in general and these community college students in particular. A final factor that might have influenced the outcome of this study relates to the limited number of students for whom complete test results were available for analysis at the conclusion of the study.

A prerequisite for achievement in English composition is successful reading achievement (Britton, 1975; Adler, 1976; Applebee, 1977; Memering, 1977; and Horning, 1978). Experimental students in this study exhibited more limited reading ability than did students in the control group. Students with limited reading skill would undoubtedly have difficulty with structural considerations in composition. For example, ability to perceive the main idea in reading would translate into ability to structure paragraphs in writing more effectively. Should students have difficulty in identifying main ideas and supporting details in reading, they would certainly have difficulty in generating these main ideas and supporting details in composition (Coomber, 1975). In a pre-test of reading achievement

44 percent of the students in the experimental group achieved at or above the 60th percentile, whereas 56 percent of the students in the control group achieved at or above this level.

A second prerequisite for successful achievement in English composition is mastery of essential English skills of expression. Students who have not achieved mastery of such skills are often prevented from generating the necessary ideas to write successfully because their attention is diverted to the mechanical aspects of their writing (Petrosky and Brozick, 1979). In a pre-study test of English skills, 20 percent of the students in the experimental group achieved at or above the 60th percentile, while 15 percent of the students in the control group achieved at or above this level. However, in a post-study test of English skills, 32 percent of the students in the experimental group achieved at or above the 60th percentile, while 35 percent of the students in the control group achieved at or above this level.

A third factor that may have contributed to findings in the study relates to an apparent inattention to the needs of students in the experimental group. Failure to address student needs relates to the level of reading performance of the students, the level of difficulty of the instructional materials employed by the instructor, and the advanced level of instruction presented in the communications classes.

The research literature suggests that students in composition need to receive special attention in their identification of audiences for their writing, need aid in both reading and writing in handling transitional and structural elements in composing, need to

learn how to become readers of their own material as well as writers, in order that they may give close attention to the mechanical aspects of composing as well as to important proofreading skills (Niles, 1965;. Moffett, 1968; Emig, 1971; Lester, 1973; Kelling, 1976; Shaughnessy, 1977; Herber, 1978; and Horning, 1978). The research literature also suggests that a large number of students in composition classes do not attend to these aspects of the composing process (Stallard, 1974).

A fourth factor that might well have contributed to findings in the study relates to the characteristics of community college students in general and to the community college students in this study specifically. Many students in community colleges appear to be inhibited by factors related to inadequately developed academic skills, a long history of academic failure, resultant feelings of low self-worth, and lack of motivation to achieve (Shaughnessy, 1976; Aron, 1978).

One indication that such characteristics had an effect on the performance of many of the students in the experimental group is seen in their refusal to take advantage of the opportunity to raise their scores on compositions. The instructor had indicated to students at the beginning of the first semester that scores on compositions could be increased a minimum of one letter grade if students would revise and resubmit their papers. Many of the students, especially lower-achieving students, refused to revise and resubmit their work.

Another indication of the effect on performance of low motivation relates to the failure of students to make up the standardized tests administered in connection with the experimental program. At the time of the study, such make-up opportunities

were available and, since students were unaware that the tests were connected with an experimental program, students had every reason to expect that failure to make up the tests would have a negative effect on their student profiles. Of the students in the experimental groups, 37 percent failed to appear for a makeup of the English expression test, while 32 percent of the students in the control group failed to make up the test.

The last factor that might have influenced the outcome of the study relates to the limited test data available from the study from which observations could be made. Reading scores were available for only 44 percent of the 41 students in the experimental group for whom all other test data were available. Such scores were available for 66 percent of the 41 students in the control group for whom all other test data were available. A larger proportion of data available for analysis might have made it possible to observe significant differences between the two groups.

Conclusions

The following research hypotheses were tested in this study.

I There will be no difference in achievement on a writing sample by community college freshmen who have received instruction in the application in English composition of specialized reading strategies--including the identification of appropriate organizational structures, methods of development, and writing style--than achievement on a writing sample by community college freshmen who have not received instruction in the application of such specialized reading strategies.

II There will be no differences in achievement on a writing sample by community college freshmen identified as "more able" readers than achievement on a writing sample by community college freshmen identified as "less able" readers.

On the basis of the data collected and tested, the hypothesis of no differences in writing achievement by community college freshmen who received instruction in the application of reading strategies to writing cannot be rejected. A change in writing skill was observed, however the difference was non-significant. The experimental group started with a significantly lower writing skill than that of the control group. The change in writing skill did favor the experimental group, though the difference was nonsignificant.

On the basis of data collected and tested, the hypothesis of no differences in writing achievement by community college freshmen identified as "more able" and "less able" readers cannot be rejected. Change in writing skill was associated with higher initial reading skill. Lower reading skill resulted in a net decrement in writing skill.

Interaction between groups was nonsignificant, indicating that the effect of high and low reading skills was consistent between the experimental and control groups, with a high of 34.7 and a low of 32.7 after adjusting for covariance. The covariate statistic was significant indicating that covariance was the appropriate statistical test for the analysis of data for the study.

Recommendations

Recommendations to other investigators of relationships between writing and reading include considerations with regard to characteristics and numbers of students selected for such investigations, the amount of time available for conducting such investigations, consideration of motivation for students selected for such investigations, and questions relating to the sophistication and difficulty of materials selected for instruction in such investigations.

Because of the difficulty in finding instructors willing to participate in this study, it was not possible to match experimental and control groups as evenly on an academic basis as was desired. In order to observe the changes postulated in the hypotheses, more careful preselecting of students might have made it possible to observe significant changes, or lack of changes, more readily. Further, investigations such as that described here require significantly larger numbers of students for both experimental and control groups in order that the final population becomes large enough to permit significant generalizations to be made.

A second recommendation for subsequent studies of relationships between writing and reading relates to the length of the time period over which subjects could be taught and observed. Shaughnessy has noted that writing skill develops slowly and that an investigator needs more than a semester's time to observe change (Shaughnessy, 1976).

Attention also needs to be given to the motivation of

students selected for studies in writing and reading. Again, Shaughnessy (1976) points up the fact that many of the students one finds in two-year colleges are reluctant to write because of their past educational experiences. However, if such students are made aware of the value that is placed on writing competence by the business community, they would perhaps be more highly motivated to learn to write. Sherwood (1977) has commented with regard to the writing and reading skills valued most highly in the business community in a survey of business and professional groups. Continuing to relate instruction to career needs might cause students to be more responsive to instruction.

Finally, a fourth consideration for subsequent studies relates to the kinds of instructional materials employed. Close attention should be given to the variables of interest level and difficulty level of materials chosen for experimental writing programs. Whether failure to desire to write derives from materials that do not speak to the interests and needs of students or whether failure to write derives from being frustrated by too difficult materials, the aspects of interest and difficulty must receive careful attention in the planning of studies if useful information is to be forthcoming that will help promote change in writing and reading achievement.

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